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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,494	04/15/2005	Gareth G. Hougham	YOR920020293US1 (16348)	9075
23389 7590 05/15/2008 SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			EXAMINER HARVEY, JAMES R	
			ART UNIT 2833	PAPER NUMBER
			MAIL DATE 05/15/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,494	<b>Applicant(s)</b> HOUGHAM ET AL.	
	<b>Examiner</b> James Harvey	<b>Art Unit</b> 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 6, 13, 21 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12, 14-20, 22-27, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

***DETAILED ACTION***

***Claim Rejections - 35 USC § 112***

- The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- The following claims is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- The following are considered to be vague and indefinite:

Claims 1, 16 and those dependent thereon, the original recitation “generally pure dielectric elastic contact button” is seen to conflict with amended recitation “essentially constituted of siloxane selected from the group of materials consisting of nickel, .... copper”. This is confusing because it is not understood how it can be pure dielectric if there a metal particles within it. For purposes of examination, it is assumed that the language is a typographical error and that the amended portion of the claim was intended to be the following:

An interposer for a land grid array (LGA) forming electrical interconnect structure between electronic components, said interposer comprising as least one generally pure dielectric elastic contact button essentially constituted of siloxane, and an electrically conductive material selected from the group of materials consisting of nickel, titanium alloy, copper, gold and other metals being disposed on the exterior of said at least one contact button providing said electrical interconnect.

An examination on the merits (as best understood) is addressed herein.

- Appropriate correction of the above is required.

*Claim Rejections - 35 USC § 103*

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**\*\* The following claim(s) is/are rejected under 35 U.S.C. 102(b) as being anticipated by Crotzer (5599193; herein referred to as cc ) or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over Crotzer (5599193; herein referred to as cc ).**

In reference to Claim(s) 1, cc shows a button ( figure 2 ) and conductive material 22 ( column 2, line 46 ), copper ( column 3, lines 55-65 ).

Cc also teaches essentially constituted of siloxane ( column 2, line 49 ).

However, in the alternative, siloxane is a known material. As evidenced by the following definition from a dictionary.

silicone (siloxane)

A polymer based on the structural motif in which two alkyl groups are attached to a silicon atom which is part of a chain of alternating silicon and oxygen atoms,

as in  $[-\text{Si}(\text{CH}_3)_2\text{O}]_n$ . They are produced by hydrolysis of the corresponding dichlorides. They form water-repellent oils, waxes and rubbers.

The New Penguin Dictionary of Science, ©  
M. J. Clugston 1998

It would have been obvious to one of ordinary skill in the art at the time the invention was made and having access to cc and the known material of siloxane, to be able to make the contact button of cc essentially constituted of siloxane.

The rationale for such a rejection is that the substitution of one known element (material essential constituted of siloxane ) for another ( siloxane of cc ) would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In reference to Claim(s) 2-4, the cancellation of these claims is noted within papers submitted by applicant on 2-1-08.

In reference to Claim(s) 5, cc shows the button is covered (“fully coated”) ( column 4, line 45 ).

In reference to Claim(s) 6, it has been withdrawn.

In reference to Claim(s) 9, cc shows sputtering ( column 2, lines 50-60 ) and mask ( column 4, lines 15-20 ) as claimed.

In reference to Claim(s) 10, as best understood, cc shows ( column 4, line 55 ) plating ( column 2, line 55 ) and ( column 4, line 31 ).

In reference to Claim(s) 7 and 8 and 11, cc shows substantially the invention as claimed.

Cc shows conductive coating goes the through hole as it is being applied to the button ( column 2, line 10 ), but is not explicit as to the through hole being metalized while the button is receiving the metal. Further, cc discusses many different configurations ( column 5, lines 13 and 30 ) to retain the elements (i.e. buttons) within the cavities.

The examiner makes official notice that it is known in the art that carrier sheets often have metallized through-holes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to be able to plate the through-hole of the carrier sheet.

The rationale for arriving at the conclusion of obviousness is the combining prior art structures yields predictable results is that all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods or procedures, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention or one skilled in the art would have been motivated to use the plated through-hole in order to securely retain the button to the carrier by soldering the plated button to the plated through-hole.

In reference to Claim(s) 12, cc shows substantially the invention as claimed.

However, as discussed above, cc is not explicit as to the details of the metalized through hole or a metal ring as claimed.

The examiner makes official notice that It is known in the art that metalized through-holes have metal rings connected as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a carrier with a metallized through-hole having a ring as claimed.

All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods or procedures, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In reference to Claim(s) 13, it has been withdrawn.

In reference to Claim(s) 14 and 15, cc shows substantially the invention as claimed.

However, cc is not explicit as to the details of the carrier 12 being of a particular plastic or polyamide material composition.

The examiner makes official notice that It is known in the art to have carriers made from such materials.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to be able to use the claimed materials in the carrier of cc.

All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods or procedures, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In reference to Claim(s) 16-30, with the exception of withdrawn method claims 21 and 28 and cancelled claims 17-19, all of the structure from the method claims 16-30 is shown by cc.

Further, the claims are not seen to show any new methods of manufacturing, but rather apply known methods where there are a finite possible ways of completing the method of plating a dielectric.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to be able to produce the invention of cc as claimed in applicant's method claims.

The rationale for such a rejection is that where "there is a design need or market pressure to solve a problem, and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *KSR INTERNATIONAL CO. v. TELEFLEX INC.*, 550 U.S., 82 USPQ2d 1385 (2007).

### ***Response to Arguments***

1. Applicant's arguments filed 2-1-08 have been fully considered but they are not persuasive. The material is known as evidenced by the dictionary definition. To use a known material within known structure is seen to be obvious to one skilled in the art. Further, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the rationale for such a rejection is that the substitution of one known element for



another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. .

2. The examiner did not have any queries concerning the amendment. Therefore, the examiner respectfully declined applicant's representatives request to be accorded the courtesy of a telephone conference. However, the examiner welcomes a telephone call from applicant's representative to set up a time for a telephone conference to discuss the application further.

#### ***Conclusion***

- This application contains claims 6,13,21,28 drawn to an invention nonelected with traverse in Papers dated 8-14-07. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
- Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Harvey whose telephone number is 571-272-2007. The examiner can normally be reached from 8:00 A.M. To 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800 extension 33.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2800.

- Applicant is encouraged to send correspondence through the USPTO fax number 571-273-8300.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).
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/James Harvey/  
James Harvey  
Primary Examiner